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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,685	12/19/2006	Yoshiki Fukui	9319G-0001842/US/NP	9913
27572	7590	02/16/2010	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			CRUZ, MAGDA	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,685	<b>Applicant(s)</b> FUKUI ET AL.	
	<b>Examiner</b> MAGDA CRUZ	<b>Art Unit</b> 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Onozawa.

Onozawa (JP 11-095324 A) discloses:

- Regarding claims 1, 5 and 7, an ultrasonic speaker (Figure 3, element 24, which inside of element 2; Figure 3 is a detail of element 2); a visual information generation unit (Figure 1, element 11) that generates visual information relating to a sound reproduction range of the ultrasonic speaker (Figure 3, element 24); and an image projection unit (Figure 1, element 10) that displays the visual information generated by the Visual information generation unit on a screen (Figure 1, element S).
- Regarding claims 2 and 6, the visual information (i.e. image projected on element S) relating to the sound reproduction range and displayed on the screen (Figure 1, element S) includes at least one of sound reproduction range information (Figure 3, element 22), reproduction volume information

(Figure 3, element 23), and direction information of sound reflected  
(Figure 3, element 25) from the screen (Figure 3, element S).

- Regarding claim 4, a plurality of ultrasonic speakers (see claim 10); and a unit that generates visual information (Figure 1, element 11) relating to a sound reproduction range of each ultrasonic speaker (Figure 3, element 24) and displays the visual information on the screen (Figure 3, element S).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being obvious over Onozawa in view of Matsuzawa et al.

The applied reference (Matsuzawa et al.) has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not

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claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Onozawa (JP 11-095324 A) teaches the salient features of the present invention as explained above, except an ultrasonic transducer that converts the modulated signal amplified by the power amplifier into sound waves of a finite amplitude level and radiates the sound waves through a medium.

Matsuzawa et al. (US Pub. No. 2006/0033882 A1) disclose an ultrasonic transducer (element 24) that converts the modulated signal amplified by the power amplifier into sound waves of a finite amplitude level and radiates the sound waves through a medium (page 3, paragraph 0049, lines 1-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the ultrasonic transducer disclosed by Matsuzawa et al. in combination with Onozawa's invention, for the purpose of converting the modulated signal into an acoustic signal in a finite amplitude level and radiated into the air (Matsuzawa et al., page 4, paragraph 0061, lines 4-6).

***Response to Arguments***

5. The applicant has argued that the prior art does not teach the “visual information relating to a sound reproduction range of the ultrasonic speaker”. However, Onozawa (JP 11-095324 A) teaches a visual information generation unit (Figure 1, element 11) that generates visual information (i.e. image projected on the screen) relating to a sound reproduction range of the ultrasonic speaker (Figure 3, element 24).

6. The applicant has argued that “Onozawa does not state that the operation unit 11 generates visual information relating to a sound reproduction range of the ultrasonic speaker”. However, Onozawa (JP 11-095324 A) teaches an operation unit, element 11 (i.e. controlling element), that performs adjustments to the image. Furthermore, the control section controls the whole device along with the program of operation, including the actuator that drives the ultrasonic output element.

7. The applicant has argued that “element 24 in Onozawa does not correspond to an ultrasonic speaker”. However, Onozawa teaches that element 24 (see Figure 3) is an ultrasonic output element.

8. In response to applicant's argument that “claim 3 depends from claim 1 and should be in condition for allowance for at least the same reasons as set forth above”, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

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9. The applicant has argued that "the present application (serial number 10/589,685) and Matsuzawa et al. (U.S. Pat. Pub. No. 2006/0033882) were, at the time the invention of the present application (serial number 10/589,685) was made, commonly owned by Seiko Epson Corporation". However, the applicant failed to provide one of the following to overcome the rejection under 35 U.S.C. 103(a), as previous indicated in the last Office Action:

a. A showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another".

b. A showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131.

c. An oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c)

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MAGDA CRUZ whose telephone number is (571)272-2114. The examiner can normally be reached on Monday through Friday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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/MC/

February 16, 2010

/Georgia Y Epps/

Supervisory Patent Examiner, Art Unit 2878